Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An electron beam device comprising:

an electron beam source for emitting an electron beam;

an electron optical system for directing said electron beam onto a specimen;

a specimen holder for holding said specimen;

a specimen tilting section for producing a relative tilt angle between said specimen holder and ~~said~~ an incident electron beam;

an electron beam detecting section for detecting electron beams emitted from said specimen; and

a data correcting section for correcting ~~the~~ three-dimensional detection data, which is based on the electron beams detected by the electron beam detecting section, to have a specified relationship under the condition of a relative tilt angle between said specimen holder and said electron beam;

wherein said data correcting section comprises: a rectifying parameter acquiring means for acquiring rectifying parameters at relative tilt angles between said specimen holder and said incident electron beam, and lens distortion correcting parameters for correcting the lens distortion of said electron optical system.

2. (Original) An electron beam device according to claim 1, wherein said specimen tilting section is adapted to tilt said specimen relative to said incident electron beam.

3. (Original) An electron beam device according to claim 1, wherein said specimen tilting section is adapted to control said electron optical system so that said incident electron beam is irradiated onto said specimen at tilted angles.

4. (Original) An electron beam device according to claim 1, wherein said electron beam detecting section is adapted to detect secondary electrons emitted from said specimen.

5. (Original) An electron beam device according to claim 1, wherein said specimen has reference marks serving as reference positions; and

said data correcting section uses said reference marks to correct deviation of said three-dimensional detection data into rectified data.

6. (Currently Amended) An electron beam device according to claim 1, wherein ~~said data correcting section comprises: a~~ said rectifying parameter acquiring means acquires said rectifying parameters using reference marks on a reference template ~~for acquiring rectifying parameters at relative tilt angles between said specimen holder and said incident electron beam for acquiring said three-dimensional detection data using reference marks on a reference template~~; and

said data correcting section further comprises:

an image data rectifying means for correcting said three-dimensional detection data into rectified data using said rectifying parameters acquired.

7. (Original) An electron beam device according to claim 1 further comprising:

at least one of a shape measuring section for measuring the shape of said specimen on the basis of the data corrected with said data correcting section and a stereovision section for forming three-dimensional images of said specimen on the basis of the data corrected with said data correcting section.

8. (Currently Amended) A data processing device for an electron beam device, connected to said electron beam device, said electron beam device having an electron beam source for emitting an electron beam, an electron optical system irradiating said electron beam onto a specimen, a specimen holder for holding said specimen, a specimen tilting section for mutually tilting said specimen holder and said electron beam, and an electron beam detecting section for detecting electron beams emitted from said specimen, and a rectifying parameter acquiring means for acquiring rectifying parameters at relative tilt angles between said specimen holder and an incident electron beam, and lens distortion correcting parameters for correcting lens distortion of said electron optical system, said data processing device comprising: a data correcting section for receiving and correcting ~~said~~ three-dimensional detection data, which is based on the electron beams detected by the electron beam detecting section, into data having a specified relationship with said rectifying parameters at relative tilt angles between said specimen holder and said incident electron beam, and lens distortion correcting parameters for correcting the lens distortion of said electron optical system.

9. (Original) A data processing device for an electron beam device according to claim 8, further comprising:

at least one of a shape measuring section for measuring the shape of said specimen on the basis of the data corrected with said data correcting section and a stereovision section for forming three-dimensional images of said specimen on the basis of the data corrected with said data correcting section.

10. (Currently Amended) A method of forming three-dimensional data of an electron beam device for measuring the shape of a specimen or for forming a three-dimensional image of said specimen using an electron beam device having an electron beam source for emitting an electron beam, an electron optical system for irradiating said electron beam onto a specimen, a specimen holder for holding said specimen, a specimen tilting section for ~~relatively~~ tilting said specimen holder relative to ~~and said~~ an incident electron

beam, and an electron beam detecting section for detecting electron beams emitted from said specimen, comprising:

said specimen being formed with reference marks serving as reference positions;

detecting first detection data with said electron beam detecting section in the state of a first relative tilt angle between said specimen holder and said incident electron beam;

detecting second detection data with said electron beam detecting section in the state of a second relative tilt angle between said specimen holder and said incident electron beam; and

correcting said first and second detection data into rectified data with rectifying parameters at relative tilt angles between said specimen holder and said incident electron beam and lens distortion correcting parameters for correcting lens distortion of said electron optical system, based on ~~using~~ said reference marks.

11. (Currently Amended) A method of forming three-dimensional data of an electron beam device for measuring the shape of a specimen or for forming a three-dimensional image of said specimen using said electron beam device having an electron beam source for emitting an electron beam, an electron optical system for irradiating said electron beam onto a specimen, a specimen holder for holding said specimen, a specimen tilting section for tilting said specimen holder relative to ~~said~~ an incident electron beam, and an electron beam detecting section for detecting an electron beam emitted from said specimen, comprising:

in place of said specimen, inserting a reference template formed with reference marks serving as reference positions onto said specimen holder;

detecting first and second detection data related to said reference template with said electron beam detecting section under conditions of first and second relative tilt angles between said specimen holder and said incident electron beam;

acquiring rectifying parameters using said reference marks at relative tilt angles between said specimen holder and said incident electron beam;

inserting said specimen onto said specimen holder;

detecting first and second detection data related to said specimen with said electron beam detecting section under conditions of first and second relative tilt angles between said specimen holder and said incident electron beam; and

correcting said first and second detection data into rectified data with rectifying parameters at relative tilt angles between said specimen holder and said incident electron beam and lens distortion correcting parameters for correcting lens distortion of said electron optical system ~~using said rectifying parameters acquired~~.

12. (Currently Amended) A data processing device for an electron beam device, connected to said electron beam device, said electron beam device having an electron beam source for emitting an electron beam, an electron optical device irradiating said electron beam onto a specimen, a specimen holder for holding said specimen, a specimen tilting section for mutually tilting said specimen holder and said electron beam, and an electron beam detecting section for detecting electron beams emitted from said specimen; said data processing device comprising:

a measurement condition judging section for receiving ~~the~~ conditions for measuring with said electron beam device; ~~and~~

a shape measuring section that receives data detected with said electron beam detecting section at different relative tilt angles caused with said specimen tilting section between said specimen holder and ~~said~~ an incident electron beam, and measures the shape of said specimen in three dimensions on the basis of measurement conditions judged with said measurement condition judging section;

a rectifying parameter acquiring means that acquires rectifying parameters for correcting differences in distortion and in scale due to said tilt angles contained in the data detected at said different tilt angles using reference marks on a reference template and acquires lens distortion correcting parameters for correcting lens distortion of said electron optical device; and

an image data rectifying means that corrects differences in distortion and in scale due to said tilt angles contained in the data detected at said different tilt angles using said acquired rectifying parameters and said lens distortion correcting parameters.

13. (Currently Amended) A data processing device for an electron beam device according to claim 12, wherein said measurement condition judging section judges measurement conditions using at least one of the information on the type of said electron beam device and the information on the magnification of said electron optical ~~system~~ device.

14. (Original) A data processing device for an electron beam device according to claim 13, wherein said specimen has reference marks serving as reference positions; and

said shape measuring section measures the shape of said specimen in three dimensions in the state of differences in distortion and in scale, due to said tilt angles and contained in detected data at said different tilt angles, corrected on the basis of reference marks contained in the data detected at said different tilt angles.

15. (Original) A data processing device for an electron beam device according to claim 12, wherein said specimen has reference marks serving as reference positions; and

said shape measuring section measures the shape of said specimen in three dimensions in the state of differences in distortion and in scale, due to said tilt angles and contained in detected data at said different tilt angles, corrected on the basis of reference marks contained in the data detected at said different tilt angles.

16. (Currently Amended) A data processing device for an electron beam device according to claim 12, ~~further comprising: a rectifying parameter acquiring means that acquires rectifying parameters for correcting differences in distortion and in scale due to said tilt angles contained in the data detected at said different tilt angles using reference marks on a reference template;~~

~~an image data rectifying means that corrects differences in distortion and in scale due to said tilt angles contained in the data detected at said different tilt angles using said rectifying parameters acquired; and~~

wherein said measuring section measures the shape of said specimen in three dimensions using the data detected at different tilt angles and corrected with said image data rectifying means.

17. (Currently Amended) A data processing device for an electron beam device according to claim 16, wherein

the reference marks of said reference template are provided in relation to at least two types of height~~;~~

~~said rectifying parameter acquiring means further acquires lens distortion correcting parameters for correcting the lens distortion of said electron optical system; and~~

~~said image data rectifying means further corrects the lens distortion contained in the data detected at said different tilt angles using said lens distortion correcting parameters~~.

18. (Currently Amended) A method of measuring a specimen in three dimensions using an electron beam device having an electron beam source for emitting an electron beam, an electron optical system for directing said electron beam onto said specimen, a specimen holder for holding said specimen, a specimen tilting section for producing a relative tilt angle between said specimen holder and ~~said~~ an incident electron beam, and an electron beam detecting section for detecting electron beams emitted from said specimen, comprising:

said specimen being formed with reference marks serving as reference positions;

detecting first detection data with said electron beam detecting section in the state of a first relative tilt angle between said specimen holder and said incident electron beam;

detecting second detection data with said electron beam detecting section in the state of a second relative tilt angle between said specimen holder and said incident electron beam;

correcting said first and second detection data into rectified data with rectifying parameters at relative tilt angles between said specimen holder and said incident electron beam, and lens distortion correcting parameters for correcting lens distortion of said electron optical system based on ~~using~~ said rectifying parameters acquired; and

measuring the shape of said specimen in three dimensions on the basis of the reference marks contained in said first and second detection data in the state of the differences, in distortion and scale due to differences in said first and second relative tilt angles and contained in said first and second detection data, and said corrected first and second detection data.

19. (Currently Amended) A method of measuring a specimen in three dimensions using an electron beam device having an electron beam source for emitting an electron beam, an electron optical system for directing said electron beam onto said specimen, a specimen holder for holding said specimen, a specimen tilting section for producing a relative tilt angle between said specimen holder and ~~said~~ an incident electron beam, and an electron beam detecting section for detecting an electron beam emitted from said specimen, comprising:

in place of said specimen, inserting a reference template formed with reference marks serving as reference positions onto said specimen holder;

detecting first and second detection data related to said reference template with said electron beam detecting section under conditions of first and second relative tilt angles between said specimen holder and said incident electron beam;

acquiring, using said reference marks, rectifying parameters for correcting the differences in distortion and in scale, due to differences in said first and second relative tilt angles and contained in said first and second detection data;

inserting said specimen onto said specimen holder;

detecting first and second detection data related to said specimen with said electron beam detecting section under conditions of first and second relative tilt angles between said specimen holder and said incident electron beam; and

measuring the shape of said specimen in three dimensions in the state of the differences, in distortion and scale due to differences in said first and second relative tilt angles, as corrected by said rectifying parameters.

20. (Withdrawn) A method of manufacturing reference templates using an electron beam device having an electron beam source for emitting an electron beam, an electron optical system for directing said electron beam onto said specimen, a specimen holder for holding said specimen, a specimen tilting section for producing a relative tilt angle between said specimen holder and ~~said~~ an incident electron beam, and an electron beam detecting section for detecting an electron beam emitted from said specimen, comprising:

placing a reference template on said specimen holder;

moving and irradiating said electron beam to positions on said reference template where reference marks are to be formed; and

forming reference marks on said reference template on the basis of the electron beams detected with said electron beam detecting section.

21. (Withdrawn) A method of preparing reference templates according to claim 20, wherein said reference marks are formed with at least four points of contamination or defects.

22. (Withdrawn) A method of preparing reference templates according to claim 20, wherein forming said reference marks is deemed to be completed when signals of electron beams detected with said electron beam detecting section reaches a predetermined level.

23. (Withdrawn) A method of preparing reference templates according to claim 20, wherein the electron beam for forming said reference marks is made greater in diameter than the electron beam for detecting ~~the~~ images of said specimen using said electron beam detecting section in said electron beam device.

24. (Withdrawn) A method of preparing reference templates according to claim 20, wherein the electric current value for the electron beam for creating said reference marks is controlled to be greater when said reference marks are being formed than when said electron beam is being moved over said reference template.

25. (Withdrawn) A reference template prepared using an electron beam device having an electron beam source for emitting an electron beam, an electron optical system for directing said electron beam onto said specimen, a specimen holder for holding said specimen, a specimen tilting section for producing a relative tilt angle between said specimen holder and ~~said~~ an incident electron beam, and an electron beam detecting section for detecting an electron beam emitted from said specimen, in the steps of:

(i) placing said reference template on said specimen holder;

(ii) moving and irradiating said electron beam to the positions on said reference template where reference marks are to be formed; and

(iii) forming reference marks on said reference template on the basis of the electron beam detected with said electron beam detecting section.